Stellingen

(1) *Dictyostelium discoideum* is a great tool to gain insight in many aspects of biological events. (*this thesis*)

(2) The chemotactic signal pathway network is highly similar to a maze: both hold one entrance, in the case of chemotaxis the GPCR, and many interconnected paths. However, unlike a maze you will end up being amazed by so many out puts the chemotactic network can have. (*Chapter 1*)

(3) *Dictyostelium* Rap1 is supremely conserved to its mammalian cousins in terms of having a great impact on chemotaxis, cytokinesis, phagocytosis, and substrate adhesion. (*this thesis; Bos JL, et al. 2001*)

(4) During chemotaxis, Rap1 is activated at the cell leading edge by multiple GEFs, where it interconnects Gα signaling to other module pathways. (*Chapter 2*)

(5) There are no secrets to success. It is the result of preparation, hard work, and learning from failures.

(6) Rap1 is a simple protein with complicated functions, a lot of mysteries still remain to be unveiled. (*Chapter 5*)

(7) As a researcher you only can insist yourself fully in the enjoyment of doing science when you are able to endure the loneliness and withstand frustrations.

(8) 长风破浪会有时，直挂云帆济沧海（<行路难>—李白）
A time will come to ride the wind and cleave the waves, I'll set my cloudlike sail to cross the sea which raves. (Li Bai—an influential Chinese poet in Tang Dynasty)